

EXHIBIT 3

Redacted

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

BRITAX CHILD SAFETY, INC.,)	
)	
Plaintiff,)	
)	Civil Action No. 5:17-cv-02724-JFL
v.)	
)	
NUNA INTERNATIONAL B.V. and)	
NUNA BABY ESSENTIALS, INC.,)	
)	
Defendants.)	

**EXPERT WITNESS REPORT OF
MR. ANDREW BOWMAN REGARDING NONINFRINGEMENT**

TABLE OF CONTENTS

I.	Introduction.....	1
II.	Qualifications.....	2
III.	Information Considered	2
IV.	Legal Standards Applied.....	3
	A. Claim Construction	3
	B. Noninfringement.....	4
V.	Level of Ordinary Skill in the Art.....	5
VI.	Overview of the '074 and '504 Patents.....	5
VII.	Prosecution History of the '074 and '504 Patents	8
	A. '074 Patent	8
	B. '504 Patent	11
VIII.	Overview of the RAVA and EXEC Car Seats.....	12
IX.	The Accused Products Do Not Infringe the Asserted Claims of the '504 Patent or the '074 Patent	15
	A. The Accused Products Do Not Infringe Claims 1-15 of the '504 Patent.....	15
	B. The Accused Products Do Not Infringe Claims 1-3 and 5-7 of the '074 Patent.....	104
X.	Noninfringing Alternatives	132
XI.	Safety and Ease of Installation.....	148
XII.	The Accused Products Do Not Practice Each of the Asserted Claims	153
XIII.	Testimony at Trial.....	161

TABLE OF EXHIBITS

Def. Exhibit No.	Description
12	U.S. Patent No. 9,499,074 to Strong et al. (“’074 patent”)
13	U.S. Patent No. 9,586,504 to Strong et al. (“’504 patent”)
53	BRITAX0002391-92
100	Prosecution History of U.S. Patent Application No. 14/063,807 (“’074 Prosecution History”)
101	Prosecution History of U.S. Patent Application No. 15/294,242 (“’504 Prosecution History”)
103	Plaintiff’s Supplemental Disclosure of Infringement Contentions (Oct. 18, 2019) (“Britax’s Supplemental Infringement Contentions”)
104	Deposition Transcript of Curtis Strong (Mar. 4, 2020) (“Strong Tr.”)
108	Curriculum Vitae of Andrew Bowman
110	Merriam-Webster’s Collegiate Dictionary, 11th Edition (2003) (“Merriam-Webster”)
111	Pictures of Accused Products
112	Nuna RAVA User Manual
113	BRITAX0011145-82 - Nuna EXEC User Manual
114	Supplemental Definitions from Merriam-Webster’s Collegiate Dictionary, 11th Edition (2003) (“Merriam-Webster”)
115	U.S. Patent No. 5,630,645 to Lumley et al. (“’645 patent”)
116	U.S. Patent No. 7,168,762 to Maciejczyk (“’762 patent”)
117	U.S. Patent No. 9,174,554 to Maciejczyk (“’554 patent”)
118	U.S. Patent No. 9,937,823 to Williams et al. (“’823 patent”)
119	U.S. Patent No. 9,120,403 to Hutchinson (“’403 patent”)
120	U.S. Patent No. 8,973,992 to Guo (“’992 patent”)
121	U.S. Patent No. 6,779,842 to McNeff (“’842 patent”)
122	U.S. Patent No. 5,611,596 to Barley et al. (“’596 patent”)
123	“Summer Infant Prodigy Base Installation,” CarseatBlog (Sept. 25, 2011), available at https://www.youtube.com/watch?v=V_bY3MnRFpk
124	“Another New Product: Summer Infant Prodigy,” SafeDad, CarseatBlog (Oct. 11, 2010), available at https://carseatblog.com/7552/another-new-product-summer-infant-prodigy/
125	“Summer Infant Prodigy - Mini Review,” JerseyGirl’sMama, Car Seat.Org (Oct. 19, 2011), available at https://www.car-seat.org/threads/summer-infant-prodigy-mini-review.148385/
126	Summer Infant Prodigy User Guide

127	“A Growing Family’s Guide to Car Seats,” CSFTL (last updated May 1, 2019), available at https://csftl.org/a-growing-familys-guide-to-car-seats/
128	“The Safest Car Seat for Your Child,” Michelle Naranjo, Consumer Reports (Nov. 21, 2016), available at https://www.consumerreports.org/car-seats/safest-car-seat-for-your-child/
129	“Car Seat Recommendations for Children,” NHTSA, available at https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/carseat-recommendations-for-children-by-age-size.pdf
130	“5 Safety Features to Look for in Baby Car Seats,” Eli Daccach, Kacz’ Kids (Dec. 21, 2017), available at https://www.kackkids.com/blogs/news/5-safety-features-to-look-for-in-baby-car-seats
131	“Safe & Secure: Convertible Car Seats Safe and Secure,” Britax Child Safety, Inc., available at https://us.britax.com/product-knowledge/articles/safecell-impact-protection-convertibles/
132	Britax’s Supplemental Responses to Nuna’s Interrogatories including Appendices A-F, dated November 11, 2019
133	Britax’s Second Supplemental Responses to Nuna’s Interrogatories including Appendices G-H, dated February 24, 2020
134	Appendix G to Britax’s Second Supplemental Responses to Nuna’s Interrogatories
135	Appendix H to Britax’s Second Supplemental Responses to Nuna’s Interrogatories
136	“How to Install a Britax ClickTight Convertible Car Seat Forward Facing,” Britax Child Safety, Inc. (Jan. 19, 2018), available at https://youtu.be/GPNg9MD1alk
137	“Britax One4Life Car Seat Installation: Forward-Facing Harness Mode using ClickTight,” Britax Child Safety, Inc. (Mar. 9, 2020), available at https://youtu.be/NUN_XWXayGY
194	U.S. Patent No. 8,434,821 to Gibree (“821 patent”)
195	U.S. Patent No. 9,789,791 to Hutchinson et al. (“791 patent”)
196	BRITAX0020160 [REDACTED]



Id. at ¶ 131.

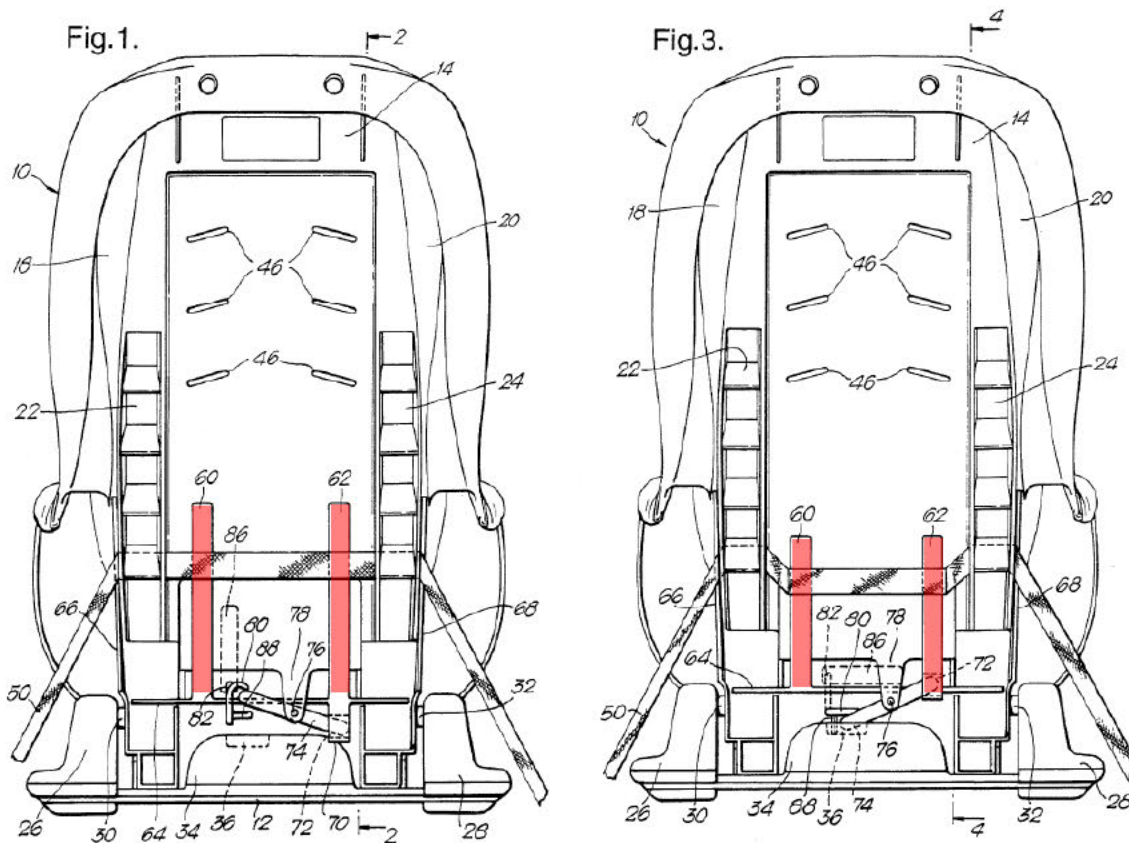
X. Noninfringing Alternatives

247. For the foregoing reasons, it is my opinion that the Accused Products do not infringe the Asserted Patents based on their use of the True Tension doors. It is also my opinion, however, that various, separate alternative designs available at the time of the development of the Accused Products could have been used in place of the True Tension doors and would have been seen by consumers as an adequate substitute in the market for the ClickTight tensioning mechanisms.

248. The True Tension doors of the Accused Products and the ClickTight mechanism of the Britax ClickTight products secure and displace the vehicle belt to provide tension thereon. Several other car seat features were available in 2015-2016, during the time the RAVA car seat was undergoing design, that also secured, displaced, and tensioned vehicle belts for the purpose of securing a car seat and could have been implemented within the RAVA and EXEC car seats.

249. For example, belt displacement levers of the sort taught by U.S. Patent No. 5,611,596 (expired on February 6, 2016) teaches various embodiments for using levers to displace a belt, thereby tensioning and securing it, as shown in the below Figs. 1 and 3 from the

patent (displacement levers 60 and 62 shown in red). As explained in the '596 patent, the belt deflection levers are moved when a user turns handle 86, which then turns crank 80. Crank 80 turns lever 74 to a horizontal position, which in turn pivots the deflection levers rearwardly and tightening the belt by displacing it relative to the seat's edges. '596 patent at 2:52-3:7.



Id. at Figs. 1, 3 (annotated).

250. As another example, U.S. Patent No. 6,779,842 teaches various seat belt tensioner embodiments that involve using a screw device to apply tension to a vehicle belt. For example, as shown in Fig. 5, tensioner 202 comprises a belt holder 220, shown in red, through which the vehicle belt is threaded. '842 patent at 6:11-17. Belt holder 220 is then raised by turning handle 51, shown in blue, on the side of the seat, thereby vertically displacing the belt and creating tension. *Id.* at 6:23-25.

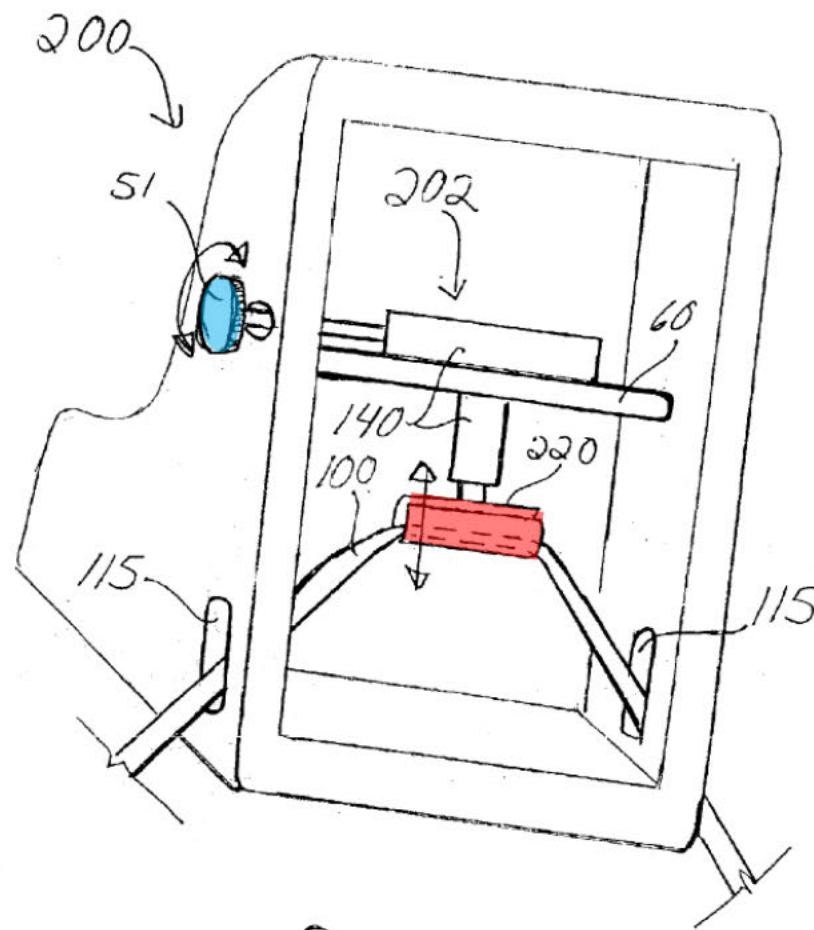
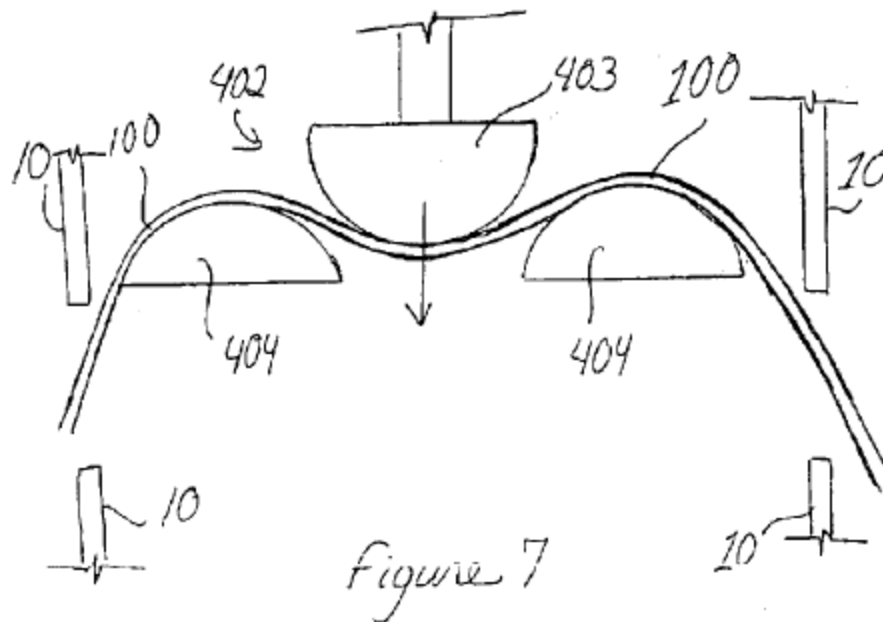


Figure 5

'842 patent at Fig. 5 (annotated).

251. Other embodiments of the '842 patent also teach similar systems but applying a downward force on the vehicle belt to displace it, thereby securing it and creating tension, as shown in Fig. 7, shown below.

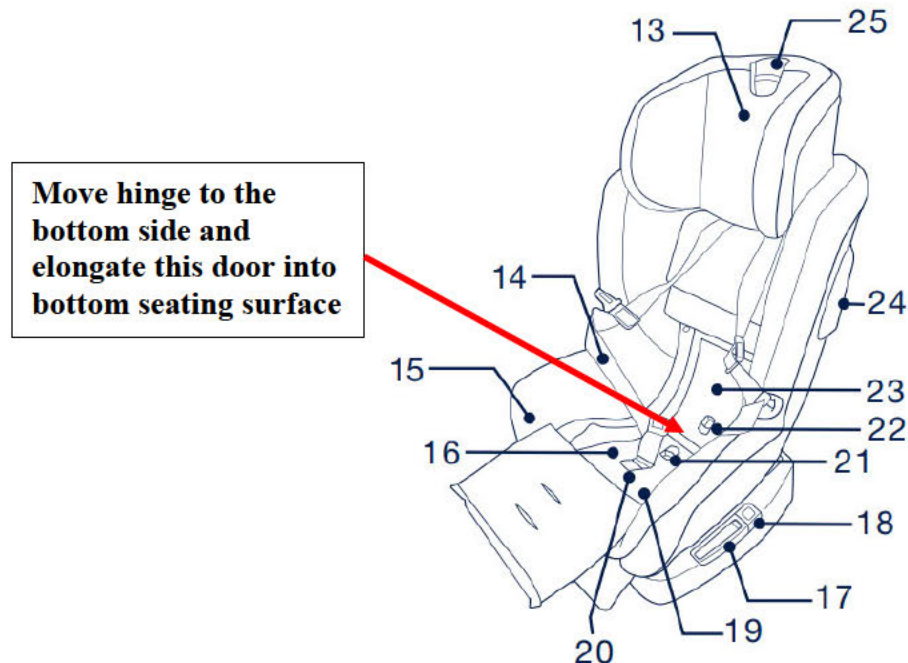


Id. at Fig. 7.

252. While it is my opinion that the True Tension doors do not infringe the Asserted Patents, it is my opinion that the True Tension doors could easily have been replaced with other noninfringing alternatives. For example, other than the designs discussed above, simply modifying the placement and configuration of the True Tension doors on the seat could create an additional noninfringing alternative.

253. All claims of the Asserted Patents require the tensioning mechanism or pivot structure to have “an end attached to the backrest portion at an axis,” or similar language. The current design of the True Tension doors provides for both doors opening toward the intersection of the backrest portion and seat portion, as shown in the below figure, where numeral 23 is the forward-facing True Tension door and 21 is the rear-facing True Tension door. RAVA User Manual at 16-17. The hinges of the forward-facing True Tension door—the only True Tension

door attached to the backrest portion—could easily be reconfigured such that it hinges on, and therefore rotates about, the seat portion.



RAVA User Manual at 16 (annotated).

254. For example, rather than have the forward-facing True Tension door hinge on the backrest, the inward-facing surface of the door could bridge the intersection between the backrest and the seat portion, the hinge located instead on the seat portion. In this configuration, the True Tensions doors would have no axis of rotation located on the backrest portion of the seat, as required by the claims of the Asserted Patents.

255. In yet another example, a spool and ratchet mechanism could be used to secure and tension the vehicle belt, as shown in U.S. Patent No. 8,434,821. The '821 patent teaches a ratchet mechanism 50 that allows the vehicle belt to be positioned attached to a spindle 54 or a spool. *See* '821 patent at 5:29-6:20. Once attached, handle 52 rotates causing the belt to wind

around the spindle 54. The configuration is shown in the below Fig. 17. *See* '821 Patent at 5:60-7:20.

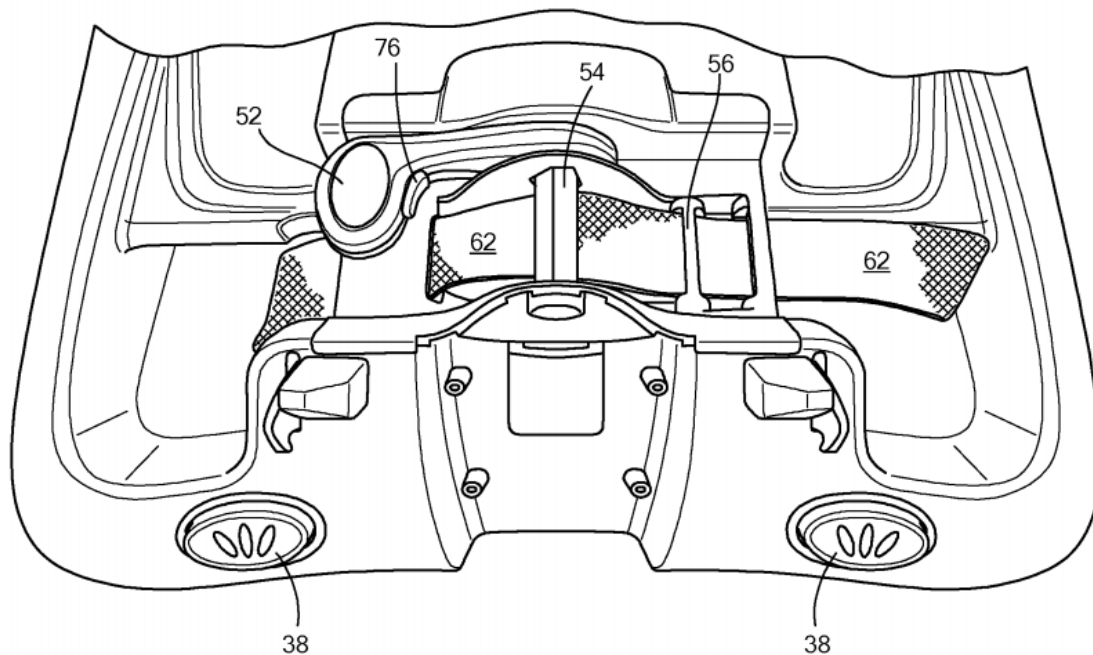


FIG. 17

Id. at Fig. 17.

256. Handle 52 is a ratchet such that when rotated in one direction it turns the spindle or spool to tighten the belt, but when rotated in the opposite direction, the spindle or spool is prevented from rotating so that the belt does not unwind. *Id.* at 5:60-66. In this manner, a user can apply an appropriate amount of additional tension to the vehicle belt by rotating the handle until the seat is properly secured as prevented from moving more than one inch in any direction. *See* '821 Patent at 5:60-7:20.¹

¹ The '821 patent also teaches and claims a "belt tension indicator," separate from the ratchet mechanism. *See, e.g.,* '821 Patent, 6:21-58. In my opinion, the "belt tension indicator" is not necessary to properly install a seat using the ratchet mechanism.

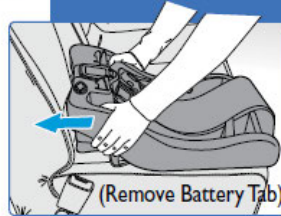
257. One seat in which this type of tensioning mechanism was used was the Summer Infant Prodigy. The Summer Infant Prodigy, for example, was available on the market at least as of 2011, based on the copyright date of the user manual, as well as several online instructional videos and reviews from this timeframe.²

258. The Summer Infant Prodigy implemented a “Belt Tightening System” that comprised a compartment through which the vehicle belt was threaded. Once the vehicle belt was threaded through the compartment, a user would remove excess slack in the belt by pulling it snug. The lap belt of the vehicle belt would then be threaded through the clip on the spool, and the installation handle that operated as a ratchet would be rotated until appropriate tension was applied to the belt. This general process is shown in steps 1 through 10 appearing on pages 35-40 of the user’s manual reproduced below.

² See, e.g., “Summer Infant Prodigy Base Installation,” CarseatBlog (Sept. 25, 2011), available at https://www.youtube.com/watch?v=V_bY3MnRFpk; “Another New Product: Summer Infant Prodigy,” SafeDad, CarseatBlog (Oct. 11, 2010), available at <https://carseatblog.com/7552/another-new-product-summer-infant-prodigy/>; “Summer Infant Prodigy - Mini Review,” JerseyGirl’sMama, Car Seat.Org (Oct. 19, 2011), available at <https://www.car-seat.org/threads/summer-infant-prodigy-mini-review.148385/>.

Base Installation with Lap/Shoulder Belt

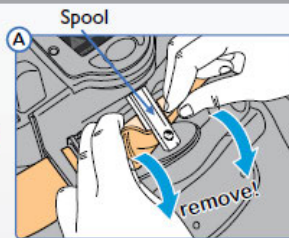
- ① Place the base on the vehicle seat with the Control Panel closest to the seatback.



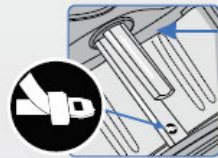
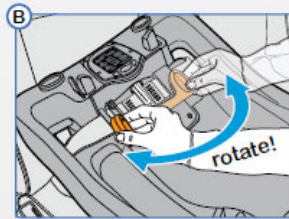
IMPORTANT! The LATCH belt webbing **MUST** be removed from Spool **BEFORE** installing. If already removed from Spool, skip to step 2 on page 36.

To remove the LATCH belt from the Spool, slide the webbing down and off the short end of the Spool.

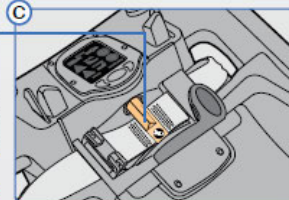
NOTE: You may not be able to see the short end of the Spool.

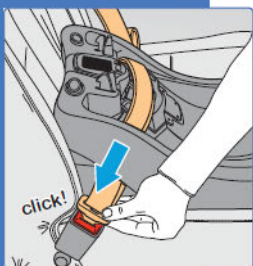
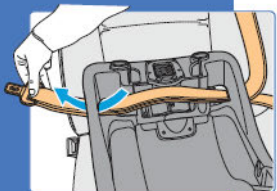



Rotate the Belt Tightening Handle to the left until the seat belt icon on the Spool is facing up.



Seat belt icon facing up.





- NEXT**
- ② Press the  button on the Control Panel. The word "Click" will light up.

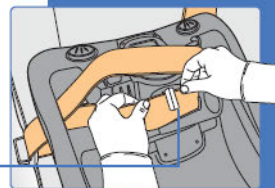
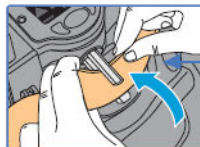
- ③ Route the seat belt through the belt path.

- ④ Buckle the seat belt.

- ⑤ Pull the **SHOULDER** portion of the seat belt to make the **LAP** portion of the seat belt webbing snug.



- ⑥ Thread **ONLY** lap portion only of seat belt through Spool.



- ⑦ Thread **BOTH** lap and shoulder portions of seat belt through Tension Sensor.

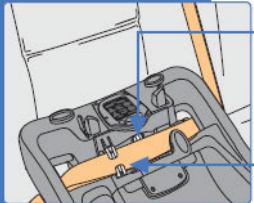


- ⑧ Pull on the **SHOULDER** portion of the vehicle belt to remove excess slack.



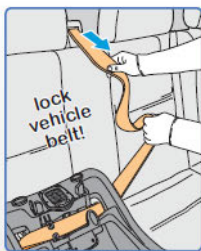


Remove excess slack and pull snug.



MAKE SURE:

1. LAP portion only is routed through Spool.
2. LAP and SHOULDER portions are routed through Tension Sensor.



Shown: Switchable Retractor

LOCK YOUR VEHICLE SEAT BELT!

REFER TO page 22 of this User Guide and to your vehicle owner's manual for more information regarding locking your vehicle belt.

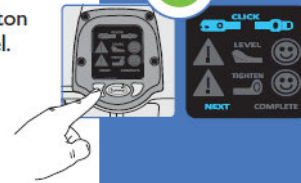
If you have an ELR (Emergency Locking Retractor) with a sliding latch plate, a LOCKING CLIP must be used. Please refer to page 42 of this User Guide for more detailed installation instructions.

NEXT




NEXT

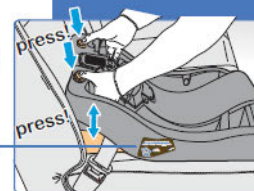
- ⑨ Press the  button on the Control Panel.



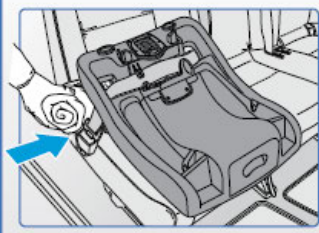
The word "Level" will light up, indicating that you need to adjust the base angle.




- ⑩ Press the Recline Adjustment Buttons on both sides of the Control Panel while lifting or lowering the base until a  appears. Ideally the "level to ground" line on the side of the base should be level to the ground.



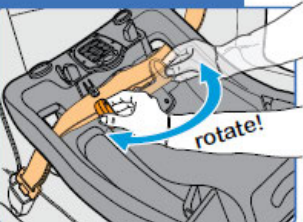
Base Installation




NOTE: If needed, a pool noodle or a tightly rolled towel may be used under the Recline Adjustment Foot to correctly adjust the angle of the base. The foot **MUST** be on the lowest position (#1).



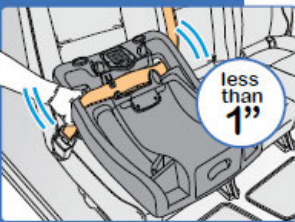
Once the angle is correct the word "Tighten" will automatically light up on the Smart Screen.



⑪ Tighten the installation by rotating the Belt Tightening Handle to the left until a 😊 appears.



The word "Complete" will light up on the Smart Screen letting you know the installation is complete.



⑫ **ALWAYS** check for a secure installation. If the Base moves more than one inch side-to-side at the belt path, repeat the above steps.

Summer Infant Prodigy User Guide at 35-40.

259. It is my opinion that the spool and ratchet tensioning mechanism, similar to that implemented in the Summer Infant Prodigy seat could have been used in the Accused Products in place of the True Tension doors to facilitate installation of the seats and to secure and tension

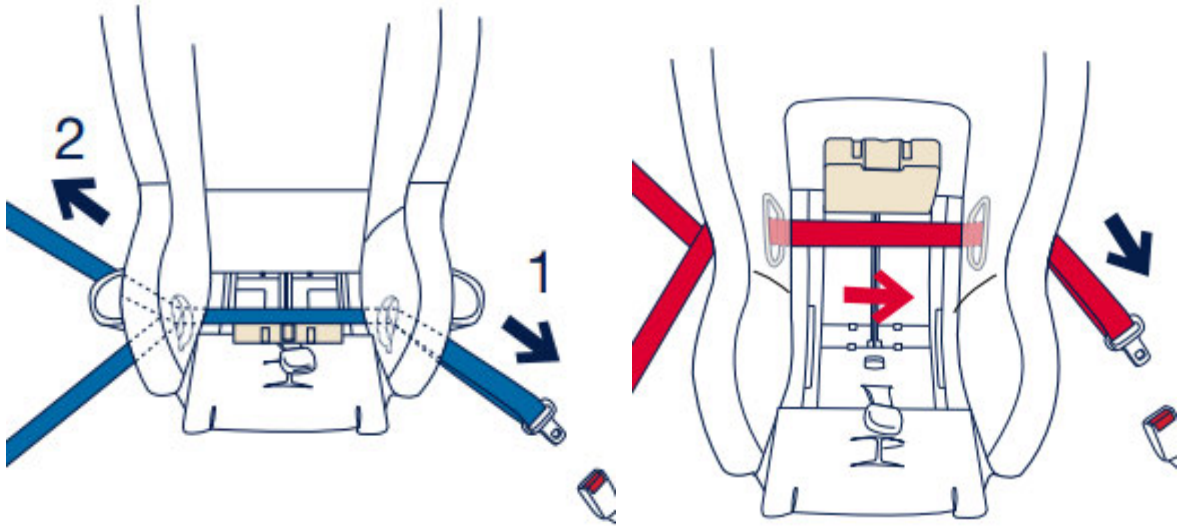
142

the vehicle belt easily during installation. It is further my opinion that this would have been an acceptable alternative to both the Britax ClickTight seats as well as the RAVA and EXEC car seats for consumers looking for car seats with means for securing and tensioning a vehicle belt.

260. Moreover, it is my opinion that the spool and ratchet mechanism could be implemented within convertible car seats, such as the RAVA and EXEC, in place of the True Tension doors. It is further my opinion that such an alternative could be implemented without requiring excessive cost.

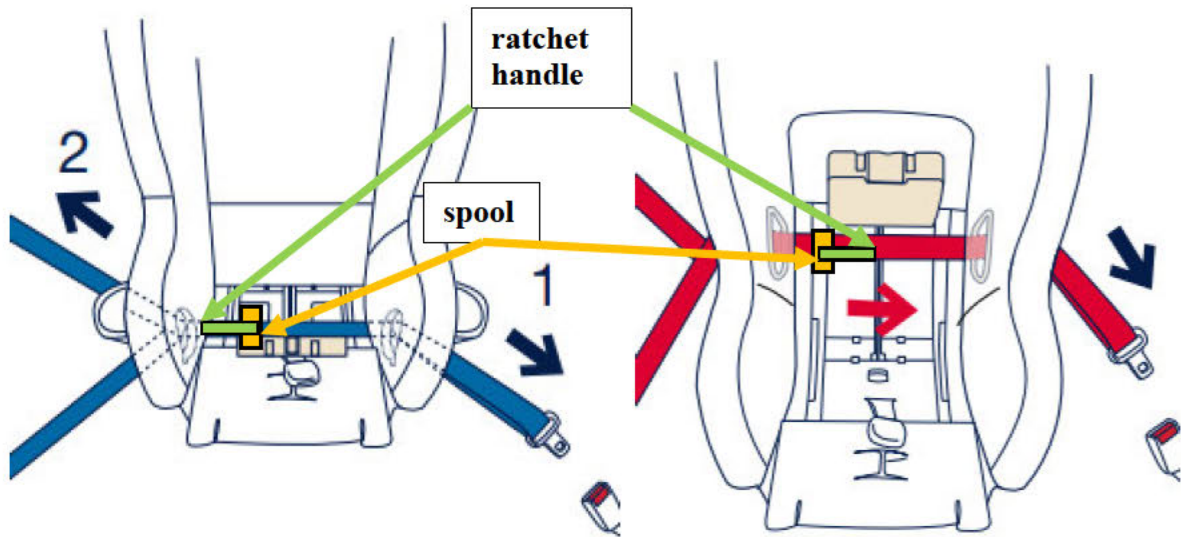
261. First, the spool and ratchet mechanism could be implemented within convertible car seats such as the RAVA and EXEC car seats, similar to the style of that implemented in the Summer Infant Prodigy. While the Summer Infant Prodigy user manual shows a single spool and ratchet level within a seat base for an infant carrier, it is my opinion that two such mechanisms could be implemented within a convertible seat, one positioned at each belt path, forward and rear facing.³ The RAVA and EXEC car seats are already configured with thread-through belt paths with accessible compartments for securing the belt in each of the forward-facing and rear-facing configurations, as shown in the images below.

³ The Summer Infant Prodigy also includes an electronic check system branded the “Smart Screen,” which presents a user with a smiley face when properly installed and tensioned. It is my opinion that this is an unnecessary addition that is not required for the spool and ratchet tensioning mechanism to be used properly. Even without such an electronic check system, users would be able to properly and securely install the seat. Therefore, when implementing a spool and ratchet tensioning mechanism in the RAVA and EXEC car seats, it is my opinion that the additional “Smart Screen” is unnecessary and would not be used.



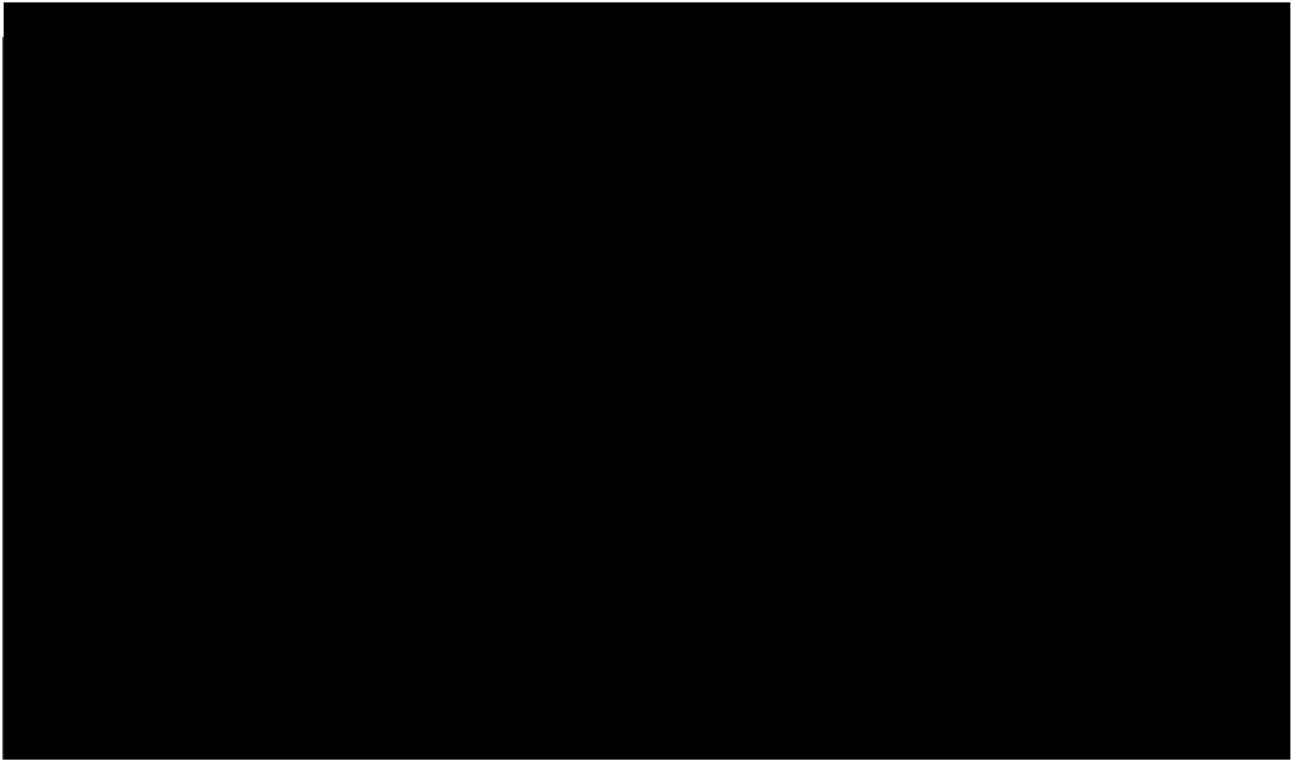
RAVA User Manual at 45, 53.

262. The Accused Products are already designed in such a manner as to facilitate the implementation of the spool and ratchet tensioning mechanism for each belt path because of the use of doors within the seat and backrest portions of the seat that are capable of concealing the spool and ratchet mechanisms for each belt path. The compartments and belt paths are shown for each configuration in the images above. In these images, however, the belt sits on top of the compartments, and the doors for the compartments are used to displace and tension the belt. Alternatively, when implemented with a spool and ratchet mechanism, the size and depth of the compartments would be adjusted such that it would fit the spool and ratchet within the compartment in line with the belt path, without additional wasted empty space, as shown in the below figures (spools shown in orange and ratchet handles shown in green).



RAVA User Manual at 45, 53 (annotated).

263. A comparison of an exemplary size adjustment for the compartment is shown in the below image, where the current compartment size on the RAVA and EXEC car seats is outlined in red, and the resized compartments are outlined in blue. Such an alteration was well within the skill of one of ordinary skill in the art at the time of the initial design of the RAVA and EXEC car seats.



264. Once the compartments and spool and ratchet mechanisms are combined, each of the rear-facing and forward-facing systems would operate like the system implemented in the Summer Infant Prodigy. The newly sized compartments on the RAVA and EXEC car seats would be sized to allow for a spool of a diameter sufficient to allow for a manageable amount of force to be required to tighten, such that a user of any strength level would be able to easily tension the vehicle belt.

265. Once the belt was threaded through the appropriate belt path, just as instructed in the user's manual for the Summer Infant Prodigy, the lap belt could be affixed to the spool, and a user would pull to preliminarily tension the belt until snug. Then, to apply additional tension needed to ensure a secure installation, a user would rotate the ratchet handle clockwise, as taught in the Summer Infant Prodigy user manual.

266. After a user is satisfied that the appropriate tension has been applied so as to ensure that the seat will not move more than one inch side to side (as is already instructed of a

user installing the RAVA and EXEC car seats), the user would then close a covering panel over the top of compartment concealing the now tensioned belt and the spool and ratchet tensioning mechanism therein. The covering panels would not displace the belt and would not cause any tension thereon, thus removing the design from the scope of the Asserted Patents.

267. Alternatively, the covering panels could be eliminated from the design completely to further simplify and promote ease of access to the belt paths and spool and ratchet mechanism. Rather than having a hard plastic cover over each compartment, one of ordinary skill in the art would have recognized that a stiffener panel could be inserted within the soft goods to cover the compartments.

268. Because of the similarities in the installation, it is my opinion that a spool and ratchet tensioning mechanism would allow for a simple and secure installation comparable to either the Britax ClickTight products or the Nuna True Tension doors. Many users would already be familiar with using a ratchet system, since it is commonly used in many other applications. Users are already instructed to thread the seat belt through the appropriate belt path. Requiring a user to additionally clip the lap belt onto the spool and rotate the ratchet handle does not add an undue level of complexity to the process. Moreover, requiring simple acts such as clipping the lap belt onto the spool and rotating the ratchet handle are not difficult or error prone tasks that would compromise the safety and security of the installation.

269. Moreover, because the True Tension doors each already conceal a compartment configured to receive the belt, no excessive redesign of the dimensions of the Accused Products would be required to accommodate the spool and ratchet mechanisms. The belt paths, as mentioned previously, would simply have to be lowered such that instead of aligning with the

surface of the backrest portion or seat portion they align with the bottom of the compartments. Such an alteration would not require excessive time or cost to implement.

270. In my opinion, any one of the above exemplary design choices could have been implemented to provide the same benefits of securing, displacing, and tensioning the vehicle belts similar to the function the Britax ClickTight and Nuna True Tension doors. In particular, the spool and ratchet or True Tension door modifications, in my opinion, would have provided a comparable product that would have been acceptable in the marketplace.

XI. Safety and Ease of Installation

271. Britax alleges that purported innovation of the Asserted Patents provides for both safety and ease of installation. Many innovations and features of car seats, however, relate to safety and ease of installation, including several patents owned by either Britax or Wonderland (the manufacturer of the Accused Products). Given the breadth of innovation in the areas of safety and ease of installation, Britax's Asserted Patents here are not the only way for car seats to advertise these benefits to consumers.

272. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] I agree with this statement. That is, all car seats that are approved for use in the United States are safe if installed and used properly.⁴ All car seats are required to meet federal safety standards. While some seats go beyond the federal mandate, any

⁴ See, e.g., "A Growing Family's Guide to Car Seats," CSFTL (last updated May 1, 2019), available at <https://csftl.org/a-growing-family-s-guide-to-car-seats/> ("Regardless of a car seat's price point, all car seats are safe when installed and used properly every time. Some higher priced seats have additional ease-of-use features or more padding, but sometimes, they don't! Never feel that you need to go beyond your budget to keep your child safe.").